Internet Access & The New Mobile Digital Divide:

http://www.nytimes.com/2011/12/04/opinion/sunday/internet-access-and-the-new-divide.html?_r=1

Correction Appended

FOR the second year in a row, the Monday after Thanksgiving ? so-called Cyber Monday, when online retailers offer discounts to lure holiday shoppers ? was the biggest online sales day of the year, totaling some $1.25 billion and overwhelming the sales figures racked up by brick-and-mortar stores three days before, on Black Friday, the former perennial record-holder.
Such numbers may seem proof that America is, indeed, online. But they mask an emerging division, one that has worrisome implications for our economy and society. Increasingly, we are a country in which only the urban and suburban well-off have truly high-speed Internet access, while the rest ? the poor and the working class ? either cannot afford access or use restricted wireless access as their only connection to the Internet. As our jobs, entertainment, politics and even health care move online, millions are at risk of being left behind.

Telecommunications, which in theory should bind us together, has often divided us in practice. Until the late 20th century, the divide split those with phone access and those without it. Then it was the Web: in 1995 the Commerce Department published its first look at the ?digital divide,? finding stark racial, economic and geographic gaps between those who could get online and those who could not.

?While a standard telephone line can be an individual?s pathway to the riches of the Information Age,? the report said, ?a personal computer and modem are rapidly becoming the keys to the vault.? If you were white, middle-class and urban, the Internet was opening untold doors of information and opportunity. If you were poor, rural or a member of a minority group, you were fast being left behind.

Over the last decade, cheap Web access over phone lines brought millions to the Internet. But in recent years the emergence of services like video-on-demand, online medicine and Internet classrooms have redefined the state of the art: they require reliable, truly high-speed connections, the kind available almost exclusively from the nation?s small number of very powerful cable companies. Such access means expensive contracts, which many Americans simply cannot afford.

While we still talk about ?the? Internet, we increasingly have two separate access marketplaces: high-speed wired and second-class wireless. High-speed access is a superhighway for those who can afford it, while racial minorities and poorer and rural Americans must make do with a bike path.

Just over 200 million Americans have high-speed, wired Internet access at home, and almost two-

thirds of them get it through their local cable company. The connections are truly high-speed: based on a technological standard called Docsis 2.0 or 3.0, they can reach up to 105 megabits per second, fast enough to download a music album in three seconds.

These customers are the targets for the next generation of Internet services, technology that will greatly enhance their careers, education and quality of life. Within a decade, patients at home will be able to speak with their doctors online and thus get access to lower-cost, higher-quality care. High-speed connections will also allow for distance education through real-time videoconferencing; already, thousands of high school students are earning diplomas via virtual classrooms.

Households will soon be able to monitor their energy use via smart-grid technology to keep costs and carbon dioxide emissions down. Even the way that wired America works will change: many job applications are already possible only online; soon, job interviews will be held by way of videoconference, saving cost and time.

But the rest of America will most likely be left out of all this. Millions are still offline completely, while others can afford only connections over their phone lines or via wireless smartphones. They can thus expect even lower-quality health services, career opportunities, education and entertainment options than they already receive. True, Americans of all stripes are adopting smartphones at breakneck speeds; in just over four years the number has jumped from about 10 percent to about 35 percent; among Hispanics and African-Americans, it?s roughly 44 percent. Most of the time, smartphone owners also have wired access at home: the Pew Internet and American Life Project recently reported that 59 percent of American adults with incomes above $75,000 had a smartphone, and a 2010 study by the Federal Communications Commission found that more than 90 percent of people at that income level had wired high-speed Internet access at home.

But that is not true for lower-income and minority Americans. According to numbers released last month by the Department of Commerce, a mere 4 out of every 10 households with annual household incomes below $25,000 in 2010 reported having wired Internet access at home, compared with the vast majority ? 93 percent ? of households with incomes exceeding $100,000. Only slightly more than half of all African-American and Hispanic households (55 percent and 57 percent, respectively) have wired Internet access at home, compared with 72 percent of whites.
These numbers are likely to grow even starker as the 30 percent of Americans without any kind of Internet access come online. When they do, particularly if the next several years deliver subpar growth in personal income, they will probably go for the only option that is at all within their reach: wireless smartphones. A wired high-speed Internet plan might cost $100 a month; a smartphone plan might cost half that, often with a free or heavily discounted phone thrown in.

The problem is that smartphone access is not a substitute for wired. The vast majority of jobs require

online applications, but it is hard to type up a résumé on a hand-held device; it is hard to get a college degree from a remote location using wireless. Few people would start a business using only a wireless connection.

It is not just inconvenient ? many of these activities are physically impossible via a wireless connection. By their nature, the airwaves suffer from severe capacity limitations: the same five gigabytes of data that might take nine minutes to download over a high-speed cable connection would take an hour and 15 minutes to travel over a wireless connection.

Even if a smartphone had the technical potential to compete with wired, users would still be hampered by the monthly data caps put in place by AT&T and Verizon, by far the largest wireless carriers in America. For example, well before finishing the download of a single two-hour, high-definition movie from iTunes over a 4G wireless network, a typical subscriber would hit his or her monthly cap and start incurring $10 per gigabyte in overage charges. If you think this is a frivolous concern, for ?movie? insert an equally large data stream, like ?business meeting.?

Public libraries are taking up the slack and buckling under the strain. Nearly half of librarians say that their connections are insufficient to meet patrons? needs. And it is hard to imagine conducting a job interview in a library.

IN the past, the cost of new technologies has dropped over time, and eventually many Americans could afford a computer and a modem to access a standard phone line. Phone service ? something 96 percent of Americans have ? was sold at regulated rates and the phone companies were forced to allow competing Internet access providers to share their lines.

But there is reason to believe this time is different. Today, the problem is about affording unregulated high-speed Internet service ? provided, in the case of cable, by a few for-profit companies with very little local competition and almost no check on their prices. They have to bear all the cost of infrastructure and so have no incentive to expand into rural areas, where potential customers are relatively few and far between. (The Federal Communications Commission recently announced a plan to convert subsidies that once supported basic rural telephone services into subsidies for basic Internet access.)

The bigger problem is the lack of competition in cable markets. Though there are several large cable companies nationwide, each dominates its own fragmented kingdom of local markets: Comcast is the only game in Philadelphia, while Time Warner dominates Cleveland. That is partly because it is so expensive to lay down the physical cables, and companies, having paid for those networks, guard them jealously, clustering their operations and spending tens of millions of dollars to lobby against laws that might oblige them to share their infrastructure.

Cable?s only real competition comes from Verizon?s FiOS fiber-optic service, which can provide speeds up to 150 megabits per second. But FiOS is available to only about 10 percent of households. AT&T?s U-verse, which has about 4 percent of the market, cannot provide comparable speeds because, while it uses fiber-optic cable to reach neighborhoods, the signal switches to slower copper lines to connect to houses. And don?t even think about DSL, which carries just a fraction of the data needed to handle the services that cable users take for granted.

Lacking competition from other cable companies or alternate delivery technologies, each of the country?s large cable distributors has the ability to raise prices in its region for high-speed Internet services. Those who can still afford it are paying higher and higher rates for the same quality of service, while those who cannot are turning to wireless.

IT doesn?t have to be this way, as a growing number of countries demonstrate. The Organization for Economic Cooperation and Development ranks America 12th among developed nations for wired Internet access, and it is safe to assume that high prices have played a role in lowering our standing. So America, the country that invented the Internet and still leads the world in telecommunications innovation, is lagging far behind in actual use of that technology.

The answer to this puzzle is regulatory policy. Over the last 10 years, we have deregulated high-speed Internet access in the hope that competition among providers would protect consumers. The result? We now have neither a functioning competitive market for high-speed wired Internet access nor government oversight.

By contrast, governments that have intervened in high-speed Internet markets have seen higher numbers of people adopting the technology, doing so earlier and at lower subscription charges. Many of these countries have required telecommunications providers to sell access to parts of their networks to competitors at regulated rates, so that competition can lower prices.

Meanwhile, they are working toward, or already have, fiber-optic networks that will be inexpensive, standardized, ubiquitous and equally fast for uploading and downloading. Many of those countries, not only advanced ones like Sweden and Japan but also less-developed ones like Portugal and Russia, are already well on their way to wholly replacing their standard telephone connections with state-of-the-art fiber-optic connections that will even further reduce the cost to users, while significantly improving access speeds.

The only thing close is FiOS. But, according to Diffraction Analysis, a research firm, it costs six times as much as comparable service in Hong Kong, five times as much as in Paris and two and a half

times as much as in Amsterdam. When it comes to the retail cost of fiber access in America, we do about as well as Istanbul.

The new digital divide raises important questions about social equity in an information-driven world. But it is also a matter of protecting our economic future. Thirty years from now, African-Americans and Latinos, who are at the greatest risk of being left behind in the Internet revolution, will be more than half of our work force. If we want to be competitive in the global economy, we need to make sure every American has truly high-speed wired access to the Internet for a reasonable cost.

Correction: December 5th 2011

An earlier version of this essay erroneously attributed a distinction to the Monday after Thanksgiving, sometimes called Cyber Monday. It was the biggest online-sales day of the year, not the biggest overall sales day.